

**CONSOLIDATED METCO, INC
CSM Site Summary**

CONSOLIDATED METCO-RIVERGATE (CONMET) FACILITY

Oregon DEQ ECSI #: 3295

13940 North Rivergate Blvd.

DEQ Site Mgr: Alicia Voss

Latitude: 45.6229°

Longitude: -122.7766°

Township/Range/Section: 2N/1W/26

River Mile: 2.5 East bank

LWG Member ☐ Yes ☒ No

Upland Analytical Data Status: ☐ Electronic Data Available ☒ Hardcopies only

1. SUMMARY OF POTENTIAL CONTAMINANT TRANSPORT PATHWAYS TO THE RIVER

The current understanding of the transport mechanism of contaminants from the uplands portions of the Consolidated Metco-Rivergate Facility (ConMet) site to the river is summarized in this section and Table 1, and supported in following sections.

1.1. Overland Transport

The ConMet facility lies downstream of the Portland Harbor Superfund site and 0.25 miles upland from the river. There is expected to be little overland transport of contaminants via soil erosion since approximately 80 percent of the site is paved and impacted soils from releases (see below) have been excavated and transported offsite for disposal (Hillsboro Landfill). However, spills or releases can be transported to the site's stormwater collection system and then potentially discharged to the river.

1.2. Riverbank Erosion

This site is not on the waterfront.

1.3. Groundwater

The limited groundwater data available indicate the presence of diesel-range and oil-range hydrocarbons and PAHs in the groundwater at the ConMet site (DEQ 2003). As described in the following section, the stormwater conveyance system acted as a preferential pathway for shallow groundwater containing petroleum-based cutting fluid to reach the river following the February 2001 release (DEQ 2003).

1.4. Direct Discharge (Overwater Activities and Stormwater/Wastewater Systems)

There is one City of Portland outfall associated with the site's stormwater collection system, which is described in Section 9.3. Three releases to the stormwater system have been reported, with two of these reaching the river. There are no analytical results reported for this active outfall.

Two release incidents are reported in DEQ's spill database. In May 2000, ConMet reported the release of 200 gallons of petroleum-based reclaimed cutting fluid when a forklift accidentally dropped a tank containing the fluid. This material flowed over the asphalt paving to a nearby stormwater catch basin. Approximately 70 gallons were unrecoverable although no discharge to

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the river was documented (DEQ 2003). The second release occurred in February 2001 due to a split pipe connection where galvanized piping connects to the polyvinyl chloride (PVC) pipeline that runs between the reclamation building and the machine shop (Supplemental Figure 3 from DEQ 2003). Released cutting fluids infiltrated fill materials, and DEQ (2003) noted that once the perched aquifer zone became saturated, the contaminated groundwater leaked up through a crack in the asphalt paving surrounding a cover frame to a nearby stormwater catch basin. Approximately 80 gallons were unrecoverable from the catch basin and were transported to the river via porous gravelly substrate surrounding the stormwater collection system. The contaminated water may also have been released through cracks between sections of the stormwater piping into the gravel pipe bedding (DEQ 2003).

The third release occurred in August 2003 when a fire caused a release of oil/water to the site catch basin. It was reported that the catch basin and riverbank area would be cleaned, and that groundwater flushed the storm sewer.

Stormwater drains through four catch basins on the site that discharge to the City of Portland conveyance system to the Willamette River. The catch basins may contain contaminants that could be discharged to the river using the City of Portland conveyance system as a preferential pathway.

1.5. Relationship of Upland Sources to River Sediments

See Final CSM Update.

1.6. Sediment Transport

Not applicable.

2. CSM SITE SUMMARY REVISIONS

Date of Last Revision: March 4, 2005

3. PROJECT STATUS

DEQ recommended the completion of an XPA in February 2001.

Activity	Date(s)/Comments	
PA/XPA	<input type="checkbox"/>	
RI	<input type="checkbox"/>	
FS	<input type="checkbox"/>	
Interim Action/Source Control	<input type="checkbox"/>	
ROD	<input type="checkbox"/>	
RD/RA	<input type="checkbox"/>	
NFA	<input type="checkbox"/>	

DEQ Portland Harbor Site Ranking (Tier 1, 2, 3, or Not ranked): Not ranked

4. SITE OWNER HISTORY

Primary Sources: DEQ 2003, 2004

Owner/Occupant	Type of Operation	Years
Consolidated Metco, Inc. (aka Metco, Inc.)	Metals casting foundry and machining operation	1983 - present
Unknown	Vacant	1964 - 1982

5. PROPERTY DESCRIPTION

The ConMet facility is located 0.25 miles upland from the Willamette River (RM 2.5). The facility's 19.9-acre property is zoned for industrial and commercial uses and is encircled by other industrial businesses such as Ash Grove Cement to the west, Union Oil Company to the north, and Fort James Corporation to the south (Figure 1).

Review of aerial photographs indicates that fill was being placed onsite to create uplands as recently as the early 1980s. Approximately 80 percent of the facility is covered either by steel or concrete pads, or with asphalt (DEQ 2003). The permanent structures that are currently being used to support metal casting foundry operations include the following:

- Administrative office
- Foundry shop
- Reclamation building
- Machine shop
- Warehouses
- Casting plant.

The location of these structures is shown in Supplemental Figure 3 from DEQ (2003). This figure also identifies the layout of the stormwater drainage system for the site including the location of catch basins either with or without filtering devices.

6. CURRENT SITE USE

The ConMet facility is a metal casting foundry (aluminum casing, structural plastics, small engine components) as well as machine manufacturing (transportation industrial components). Operations at the site also include a reclamation process for removing aluminum shavings from the cutting fluid used to manufacture aluminum castings (DEQ 2003, 2004).

7. SITE USE HISTORY

Throughout the history of the facility, it has operated as a metal casting foundry.

8. CURRENT AND HISTORIC SOURCES AND COPCS

The understanding of historic and current potential upland sources at the site is summarized in Table 1. The following sections provide a brief overview of the potential sources and COPCs at the site requiring additional discussion.

8.1. Uplands

As mentioned in Section 1, a release of reclaimed cutting fluid occurred in February 2001. The release was caused by a split in a pipe connection where galvanized piping connects to the polyvinyl chloride (PVC) pipeline that runs between the reclamation building and the machine shop [see Supplemental Figure 3 from DEQ (2003)]. The pipe connection occurs at a depth of

approximately 2 feet bgs (Kennedy/Jenks 2004). The incident investigation notes that released cutting fluids infiltrated fill materials. Once the perched aquifer zone became saturated, the contaminated groundwater leaked up through a crack in the asphalt paving surrounding a cover frame to a nearby stormwater catch basin. Approximately 80 gallons were unrecoverable and were transported to the river via porous gravelly substrate surrounding the stormwater collection system. The contaminated water may also have been released through cracks between sections of the stormwater piping into the gravel pipe bedding (DEQ 2003).

Results also indicated that the released fluid infiltrated fill materials surrounding the recirculation pipes. The contaminated fill material was excavated (15.5 tons) by ConMet's contractor and transported offsite for disposal [see Supplemental Figure 1 from Kennedy/Jenks (2004)]. This investigation also addressed a smaller release of cutting fluid (200 gallons) to asphalt in May 2000 (see Section 9).

Fill material (not related to the February 2001 release) is also expected to be a potential source of PAH constituents since analytical results from two boring cores [B-8 and B-9; Supplemental Figure 1 from Kennedy/Jenks (2004)] collected for investigating the environmental impacts associated with site's 2001 release incident detected benzo(a)pyrene concentration above its RBC of 0.27 mg/kg (Kennedy/Jenks 2004).

8.2. Overwater Activities

☐ Yes ☒ No

This site does not have overwater activities.

8.3. Spills

Known or documented spills at the ConMet site were obtained either from DEQ's Emergency Response Information System (ERIS) database for the period of 1995 to 2004, from oil and chemical spills recorded from 1982 to 2003, by the U.S. Coast Guard and the National Response Center's centralized federal database [see Appendix E of the Portland Harbor Work Plan (Integral et al. 2004)], from facility-specific technical reports, or from DEQ correspondence. These spills are summarized below.

Date	Material(s) Released	Volume Spilled (gallons)	Spill Surface (gravel, asphalt, sewer)	Action Taken (yes/no)
May 2000	Reclaimed cutting fluid	Approx. 200	Asphalt w/residues washed out via sewer	65% recovered
February 2001	Reclaimed cutting fluid	Approx. 3,000	Subgrade gravel & fill materials w/residues washed out via sewer	75% recovered
August 2003	Oil water mixture	?	Surface spill that reached the storm sewer catch basins	Yes – catch basin and edge of river

As described in Sections 1 and 8.1, the February 2001 spill and the August 2003 resulted in discharge to the Willamette River. ConMet was notified of the February 2001 release after the Portland Fire Department traced an approximately 50- by 20-foot milky white sheen on the river back to City of Portland Outfall 53A. The origin of release was then traced back to a stormwater catch basin located in the northeast corner of the ConMet site (DEQ 2003). ConMet reported the August 2003 spill to the city and reported a catch basin and riverbank cleanup were being conducted at that time.

9. PHYSICAL SITE SETTING

One subsurface investigation has been completed at the ConMet site as a result of the two incidental releases of reclaimed cutting fluids. The investigation installed nine temporary borings and collected five grab groundwater samples. The following information on the geology and hydrogeology at the site is summarized from DEQ's Strategy Recommendation (DEQ 2003).

9.1. Geology

Subsurface material at the site consists of well-drained sandy alluvium or sandy dredge spoils, overlaying fine- to medium-grained sands to depths of approximately 5 to 10 feet bgs. Underlying these overburden deposits and fill material are dark grey to orange silty clays (DEQ 2003).

9.2. Hydrogeology

Site borings indicate that the shallow groundwater system contains relatively thin, locally elevated perched aquifers (samples collected as shallow as 1 foot bgs) with the water table generally found between 6 and 20 feet bgs (DEQ 2003). Groundwater flow has not been evaluated.

10. NATURE AND EXTENT

The current understanding of the nature and extent of contamination for the uplands portions of the site is summarized in this section based on subsurface investigation reports prepared for the site (Kennedy/Jenks 2004, DEQ 2003). When no data exist for a specific medium, a notation is made.

10.1. Soil

10.1.1. Upland Soil Investigations

☒ Yes ☐ No

Kennedy/Jenks Consultants completed the installation of nine soil borings (using a hydraulic-push probe) to define the extent of subsurface soil contamination resulting from the February 2001 spill. Borings B-1 through B-3 and B-7 through B-9 extended to 8 ft bgs, B-4 and B-5 extended to 16 ft bgs, and B-6 extended to 20 ft bgs. Soils were subsampled from each boring and one hand-dug location. Samples were analyzed for PAH compounds, diesel-range TPH, and oil-range TPH. Areas of subsurface soil contamination are generally present within the location of the February 2001 incidental release of reclaimed cutting fluids. However, identification of the nature and extent of subsurface soils contamination is limited to light-weight oil constituents. Metals or other chemicals were not analyzed. The subsurface soil investigation reported TPH and PAH maximum concentrations as follows:

TPH	10,600 mg/kg
Benzo(a)pyrene	0.910 mg/kg

The detected PAH compound, benzo(a)pyrene, occurred in a sample collected adjacent to the incidental release site (DEQ 2003). This compound is not a constituent of cutting fluid, suggesting that the source may be related to contaminants in the fill material placed at the site in the 1960s (Kennedy/Jenks 2004).

10.1.2. Riverbank Samples

☐ Yes ☒ No

This site is not located on the waterfront.

10.1.3. Summary

Soils impacted by the February 2001 release of spent cutting fluids were excavated and transported offsite for disposal. The subsurface soils with elevated PAH constituents have not been fully evaluated for nature and extent.

10.2. Groundwater

10.2.1. Groundwater Investigations

☒ Yes ☐ No

One groundwater investigation, limited to the evaluation of the extent of subsurface contamination resulting from the February 2001 cutting fluids spill, has been conducted at the site. Groundwater samples were collected from five borings and one hand-dug location. All six groundwater samples were analyzed for diesel-range TPH and oil-range TPH. Additionally, four of the groundwater samples were analyzed for PAH compounds (DEQ 2003).

No groundwater data are available regarding other areas of the site.

10.2.2. NAPL (Historic & Current)

☒ Yes ☐ No

According to DEQ (2003), detected concentrations of diesel-range and heavy-oil-range hydrocarbons (40,700 µg/L and 17,400 µg/L, respectively) in the groundwater indicate that free product was present at the time of sampling (solubility of diesel and oil ~ 3,000 µg/L). However, emulsifying agents likely were present in the released cutting fluids, potentially altering the solubility of the hydrocarbons (DEQ 2003). *(Note: available documents were inconsistent regarding the units used in presentation of the TPH values and these TPH values may be mg/L).*

10.2.3. Dissolved Contaminant Plumes

☒ Yes ☐ No

A dissolved groundwater plume is present in the shallow aquifer beneath the site. Diesel-range TPH and oil-range TPH were detected in all six groundwater samples, with concentrations ranging from 0.580 µg/L to 40,700 µg/L (*see note above*). Five PAH compounds (acenaphthene, fluoranthene, fluorene, phenanthrene, and pyrene) were detected in two of the four groundwater samples analyzed (DEQ 2003).

Plume Characterization Status ☐ Complete ☒ Incomplete

Based on the data reviewed by GSI, the dissolved plume characterization is incomplete.

Plume Extent

Groundwater data available for the site are limited to the evaluation of the February 2001 cutting fluid spill. The results of this sampling indicate that the groundwater contained diesel-range and oil-range hydrocarbons to the west and south of the location of the February 2001 release. PAHs also were detected in two samples collected west of the release site (DEQ 2003). Based on the data reviewed by GSI, the nature and extent of the groundwater plume cannot be fully evaluated.

Min/Max Detections (Current Situation)

The following table summarizes detected chemical concentrations in the groundwater samples from the site (DEQ 2003).

Analyte	Minimum Concentration	Maximum Concentration
Total Petroleum Hydrocarbons ($\mu\text{g/L}$)*		
Diesel-range TPH	0.580	40,700
Oil-range TPH	0.870	17,400
Polycyclic Aromatic Hydrocarbons (PAHs) ($\mu\text{g/L}$)*		
Acenaphthene	2.17	27.6
Fluoranthene	0.315	0.578
Fluorene	0.201	<5
Phenanthrene	1.40	8.06
Pyrene	<0.2	0.706

*Available documents were inconsistent regarding the units used in presentation of the TPH values, and these TPH values may be mg/L.

Current Plume Data

Based on the data reviewed by GSI, the estimated extent of the petroleum plume in the shallow aquifer is shown in Figure 2.

Preferential Pathways

Stormwater drains through four catch basins on the site that discharge through an outfall to the Willamette River. As described in previous sections, the stormwater conveyance system has acted as a preferential pathway in the past [see Supplemental Figure 3 from DEQ (2003)].

No additional information is available regarding the relationship of shallow groundwater and this or other preferential pathways (i.e., utilities) to the river.

Downgradient Plume Monitoring Points

Groundwater flow direction at the ConMet site has not been evaluated; therefore, the downgradient direction at the site is not known.

Visual Seep Sample Data

☐ Yes ☒ No

The site is not adjacent to the river, and no seeps are anticipated to be associated with this site.

Nearshore Porewater Data

No nearshore porewater data are available.

Groundwater Plume Temporal Trend

A groundwater plume temporal trend has not been assessed because of a lack of temporal data for the site.

10.2.4. Summary

A groundwater investigation limited to evaluating the extent of subsurface contamination resulting from the February 2001 cutting fluids spill indicates the presence of diesel-range and oil-range hydrocarbons and PAHs in the groundwater near this release (DEQ 2003). Based on the data reviewed by GSI, the nature and extent of the release is not defined. Additionally, the stormwater conveyance system acted as a preferential pathway for the reclaimed cutting fluid to reach the river after the February 2001 release (DEQ 2003).

No groundwater data are available regarding other areas of the site.

10.3. Surface Water

10.3.1. Surface Water Investigation

☐ Yes ☒ No

10.3.2. General or Individual Stormwater Permit (Current or Past)

☒ Yes ☐ No

The site's stormwater runoff discharges through four catch basins before being transported to the City of Portland system, which eventually discharges to the river at Outfall #53A [see Supplemental Figure 3 from DEQ (2003)]. The four connections drain four different basins, one of which (Drainage Basin 2) is non-industrial. Two of the four connections (Drainage Basins 1 and 4) are considered "representative" of site activities and are therefore monitored under a GEN12Z permit. The drainage basins are as follows:

Drainage Basin 1: This basin incorporates a storage area for aluminum borings and chips, which are stored in large metal containers. Machine oil is also stored in this location. Stormwater from this area may contain oil, grease and metals.

Drainage Basin 2: This basin is non-industrial, including the employee parking lot and main office building.

Drainage Basin 3: Waste oil and coolants (water soluble) and hydraulic oil are transferred at this location. Stormwater from this area may contain oil, grease and metals.

Drainage Basin 4: This basin includes outdoor waste storage (i.e., trash) and the shipping and receiving dock. Stormwater from this area may contain oil, grease, color and foam, TOC, COD, and TSS.

In Drainage Basin 1, stormwater samples are collected from a manhole at the northwest corner of the foundry building. In Drainage Basin 4, stormwater samples are collected from a manhole located at the junction of the south entrance access road and the north/south trending access road at the center of the facility.

Permit Type	File Number	Start Date	Outfalls	Parameters/Frequency
GEN12Z	100514	10/27/97	Connects to City of Portland Outfall 53A	Standard ¹ /Twice yearly

¹ Standard GEN12Z permit requirements include pH, oil and grease, total suspended solids, copper, lead, and zinc. *E. coli* may also be required.

A GEN12H permit was issued on July 29, 1992 and expired in 1996.

Do other non-stormwater wastes discharge to the system?

☐ Yes ☒ No

10.3.3. Stormwater Data

☐ Yes ☒ No

10.3.4. Catch Basin Solids Data

☐ Yes ☒ No

No data exist for solids contained in catch basins although the potential for contaminant release via these structures may be a concern.

10.3.5. Wastewater Permit

☐ Yes ☒ No

Not applicable.

10.3.6. Wastewater Data

☐ Yes ☒ No

10.3.7. Summary

There is potential for industrial materials to be released into the river because the stormwater conveyance system has acted as a preferential pathway in the past [see Supplemental Figure 3 from DEQ (2003)].

10.4. Sediment

10.4.1. River Sediment Data

☐ Yes ☒ No

10.4.2. Summary

See Final CSM Update.

11. CLEANUP HISTORY AND SOURCE CONTROL MEASURES

11.1. Soil Cleanup/Source Control

In May 2000, approximately 200 gallons of Trimsol VHP E210 were released onto a paved surface. Although response appears to have been timely, there are references to flushing and pumping of the stormwater system and manhole but no mention of precautions taken to prevent the released material and/or wash water from continuing down the stormwater system and discharging to the river. Spill reports indicate that approximately 70 or 80 gallons were unrecoverable (DEQ 2003).

The February 2001 cleanup response related to the release of cutting fluid included:

- Vacuuming 3,000 gallons of the released material from a catch basin (directly 20 feet west of the leaking pipe),
- Vacuuming an additional 1,500 gallons from the reclamation plant, and
- The disposal of approximately 15.5 tons of excavated contaminated soils offsite.

Although the response effort in the immediate vicinity of release was timely, there is no report of precautions taken to prevent wash water from flowing into the stormwater system (DEQ 2003).

The August 2003 cleanup response related to the release of oil/water mixture following a fire included cleaning out the catch basins and cleaning the river bank.

11.2. Groundwater Cleanup/Source Control

No groundwater cleanup or source control measures have been conducted at the site.

11.3. Other

Not applicable.

11.4. Potential for Recontamination from Upland Sources

See Final CSM Update.

12. BIBLIOGRAPHY / INFORMATION SOURCES

References cited:

DEQ. 2003. DEQ Strategy Recommendation – ConMet. May 21, 2003. Site Assessment Program, Oregon Department of Environmental Quality, Portland, OR.

DEQ. 2004. DEQ Site Summary Report – Details for Site ID 3295. DEQ Environmental Cleanup Site (ECSI) Database. Accessed May 11, 2004. www.deq.state.or.us/wmc/ecsi/ecsidetail.asp?seqnbr=3295.

Integral, Windward, Kennedy/Jenks, Anchor Environmental, and Groundwater Solutions. 2004. Portland Harbor RI/FS Programmatic Work Plan. Prepared for the Lower Willamette Group, Portland, OR. Integral Consulting, Inc., Mercer Island, WA.

Kennedy/Jenks. 2004. Consolidated Metco, Inc. – Response to Strategy Recommendations. Letter response. Kennedy/Jenks Consultants, Portland, OR.

Other relevant references/information sources:

EDR. 2002. EDR Environmental Atlas, Portland Harbor, Multnomah. OR. Environmental Data Resources, Southport, CT.

Figures:

Figure 1. Site Features

Figure 2. Extent of Impacted Groundwater

Tables:

Table 1. Potential Sources

Supplemental Scanned Figures:

Figure 3. On-Site Stormwater Map (DEQ 2003)

Figure 1. Site Plan Showing Impacted Area (Kennedy/Jenks 2004)

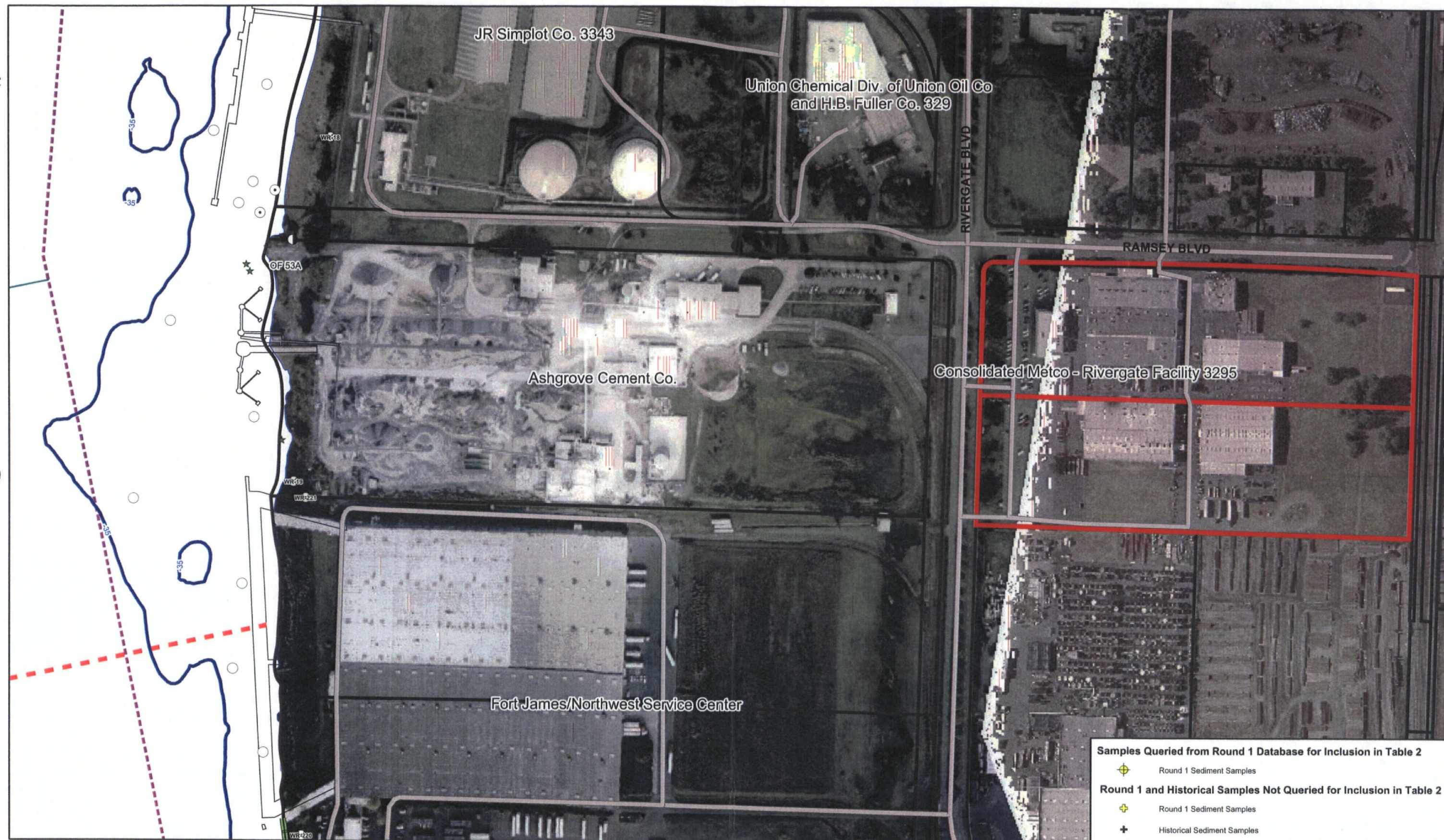
FIGURES

Figure 1. Site Features

Figure 2. Extent of Impacted Groundwater

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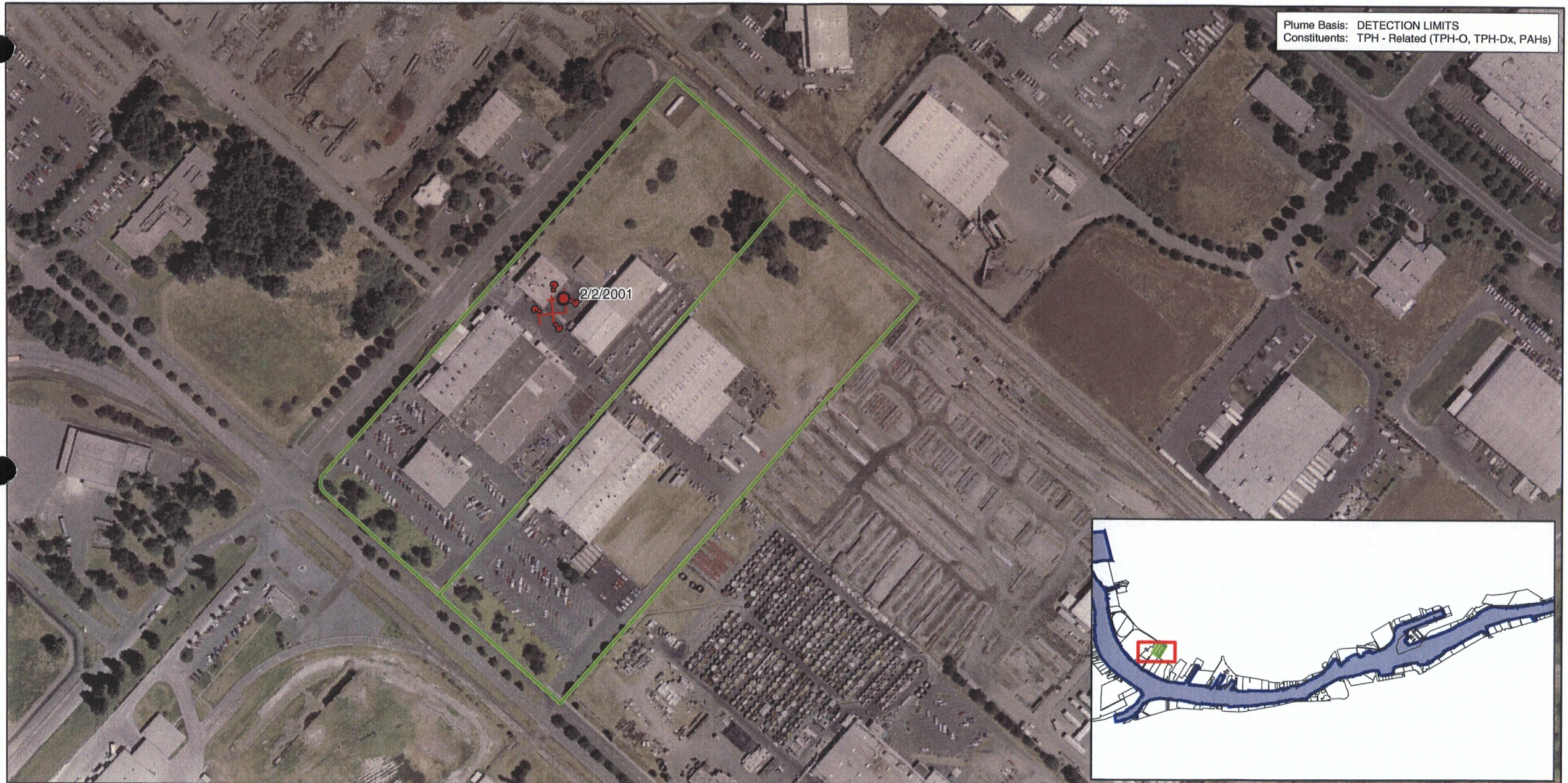
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Figure 1-Site Features
 Portland Harbor RI/FS
 Conceptual Site Model
 Consolidated Metco
 ECSI 3295



0 175 350 Feet



FEATURE SOURCES:
 Transportation, Water, Property, Zoning or Boundaries: Metro RLIS.
 ECSI site locations were summarized in December, 2002
 and January, 2003 from ODEQ ECSI files.

Map Creation Date: August 11, 2004

File Name: Fig2_ConsolMetco_SummaryMap_70604.mxd

LEGEND

- Site Boundary
- Maximum Detection Location

Contaminant Type

- Petroleum related

- Extent of Impacted Groundwater**
 For details, refer to plume interpretation table in CSM document.
- Single or isolated detection of COI's. Extent or continuity of impacted groundwater between sample points is uncertain. Color based on contaminant type.
 - Estimated extent of impacted groundwater area. Color based on contaminant type.

Figure 2
Portland Harbor RI/FS
Consolidated Metco, Inc.
Upland Groundwater Quality Overview

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TABLES

Table 1. Potential Sources and Transport Pathways Assessment

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Consolidated Metco, Inc. #3295

Table 1. Potential Sources and Transport Pathways Assessment

Last Updated: March 4, 2005

Potential Sources	Media Impacted					COIs															Potential Complete Pathway					
Description of Potential Source	Surface Soil	Subsurface Soil	Groundwater	Catch Basin Solids	River Sediment	TPH				VOCs		SVOCs	PAHs	Phthalates	Phenolics	Metals	PCBs	Herbicides and Pesticides	Dioxins/Furans	Butyltins	Overland Transport	Groundwater	Direct Discharge - Overwater	Direct Discharge - Storm/Wastewater	Riverbank Erosion	
						Gasoline-Range	Diesel - Range	Lighter - Range	Heavier - Range	Petroleum-Related (e.g. BTEX)	VOCs															Chlorinated VOCs
Upland Areas																										
Reclamation	✓	✓	✓	✓	?		✓		✓				✓									✓		✓		
Soils impacted by March 2001 release of cutting fluid		✓	?										✓									?				
Foundry																										
Fill material																										
Overwater Areas																										
								</																		

Notes:

All information provided in this table is referenced in the site summaries. If information is not available or inconclusive, a ? may be used, as appropriate. No new information is provided in this table.

✓ = Source, COI are present or current or historic pathway is determined to be complete or potentially complete.

? = There is not enough information to determine if source or COI is present or if pathway is complete.

Blank = Source, COI and historic and current pathways have been investigated and shown to be not present or incomplete.

UST Underground storage tank

AST Above-ground storage tank

TPH Total petroleum hydrocarbons

VOCs Volatile organic compounds

SVOCs Semivolatile organic compounds

PAHs Polycyclic aromatic hydrocarbons

BTEX Benzene, toluene, ethylbenzene, and xylenes

PCBs Polychlorinated biphenols

SUPPLEMENTAL FIGURES

Figure 3. On-site Stormwater Map (DEQ 2003)

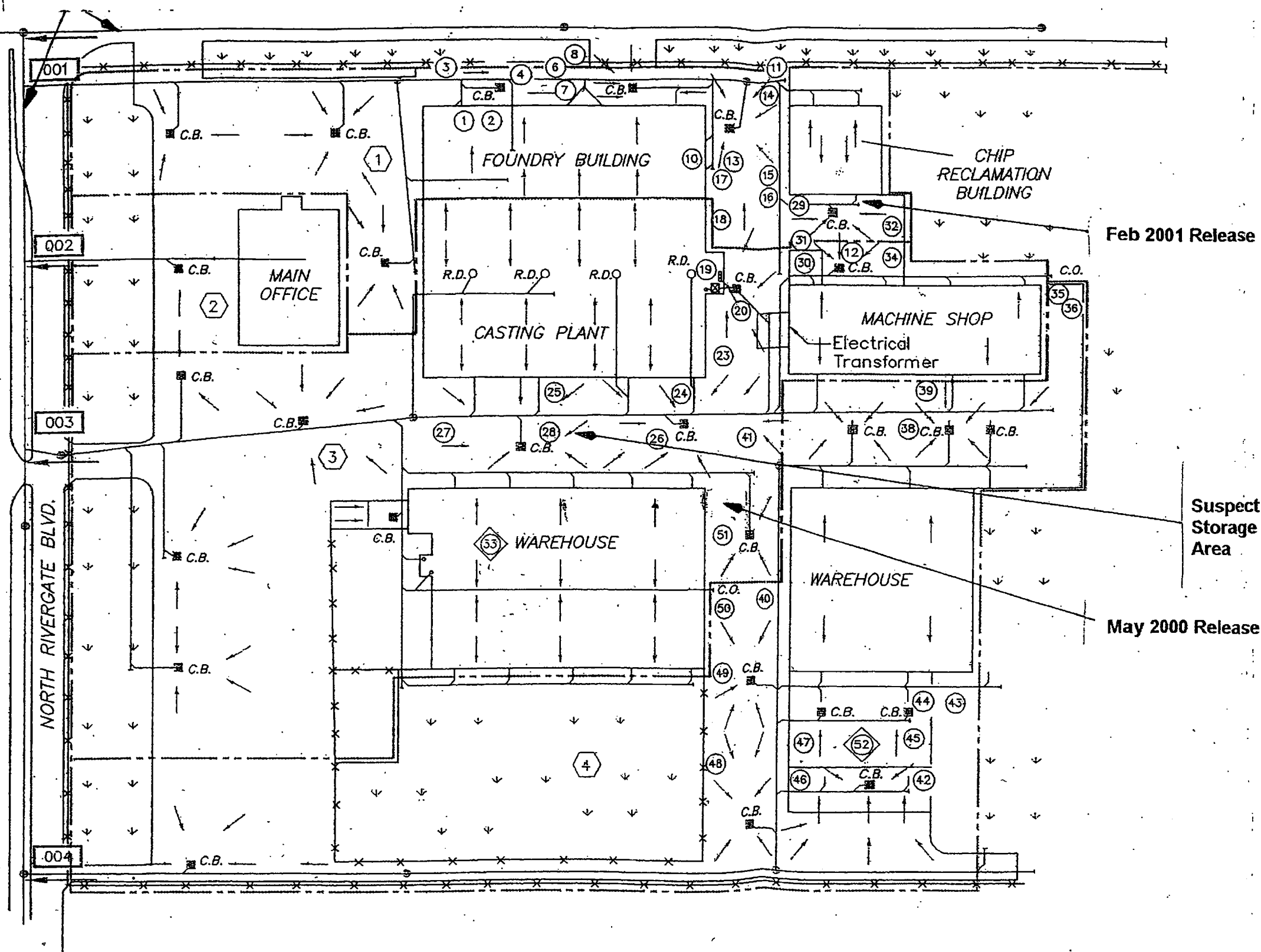
Figure 1. Site Plan Showing Impacted Area (Kennedy/Jenks Consultants 2004)

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Stormwater Main

NORTH RAMSEY BLVD.



- LEGEND**
- Outfall
 - 001 Outfall Number
 - Underground Storm Sewer
 - Catch Basin
 - Catch Basin with Filter
 - Roof Drain
 - Manhole
 - - - Drainage Area Boundary
 - ③ Drainage Basin Identification
 - Direction of Drainage
 - ↓ ↓ Grass and /or Shrubs
 - ②② Areas of Significant Materials or Industrial Activity
 - *** Fence
 - ②③ Potential Spill Areas
 - - - Property Line

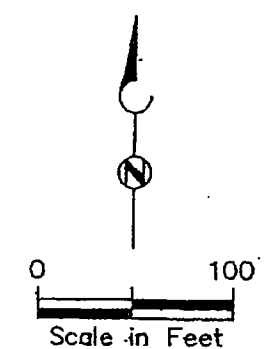
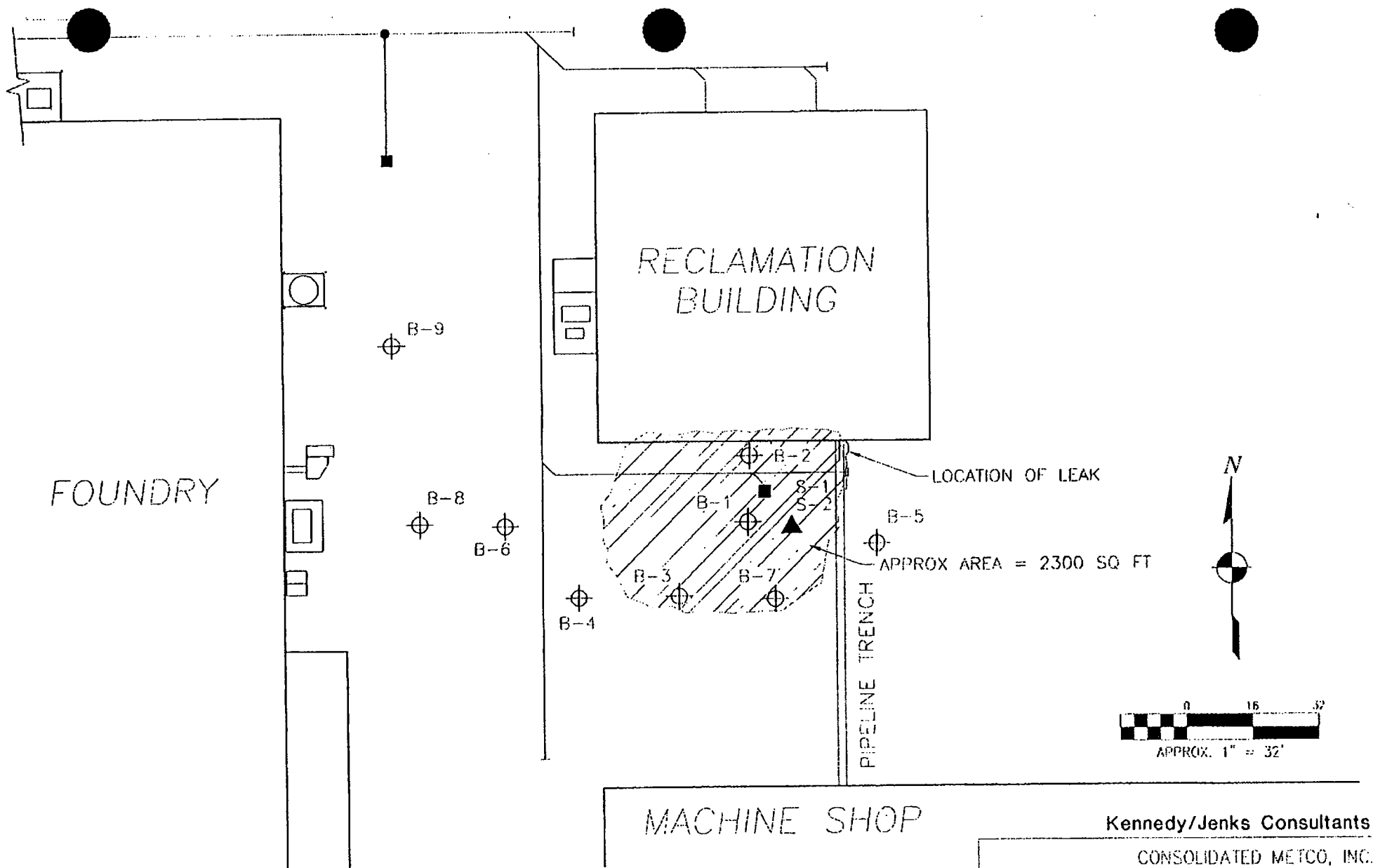


Figure 3
On-Site Stormwater Map

CONSOLIDATED METCO, INC.
RIVERGATE FACILITY



LEGEND:

- ⊕
B-9
BORING LOCATION (21, 27, FEBRUARY 2001)
- ▲
S-2
HAND DUG EXPLORATION SAMPLE LOCATION (2, FEBRUARY 2001)
- CATCH BASIN

Kennedy/Jenks Consultants

CONSOLIDATED METCO, INC.
RIVERGATE FACILITY
PORTLAND, OREGON

SITE PLAN SHOWING IMPACTED AREA

K/J 016024.00/P1SK001

FIGURE 1